



Space Day: Prospecting for Knowledge

22-Edible Solar System – Teacher Page

Purpose: To learn the order of the planets in the solar system.

Materials:

- 8 inch paper plates (inexpensive ones)
- Compass
- Different sized hard candies to represent the planets
(butterscotch for the sun; red hots, Skittles, mints, etc.)
- Colored, large crystal, sugar (for the asteroid belt)
- Canned frosting

Background: When the ancients studied the night sky, they noticed that five "stars" moved with respect to the others. They called them "planets," from the Greek word for "wanderer," and kept careful records of their motions. These records eventually enabled astronomers to figure out why they moved as they did: the planets, including our Earth, orbit around the Sun in nearly circular orbits. Over the years, telescopes have enabled us to discover three other planets, bringing the total number to nine (including Earth).

This activity: Using different sized candies, this activity will allow students to model the order of the planets in the solar system.

Preparation: Following the directions listed on the student sheet, the orbital paths of each planet must first be drawn on the paper plate. A compass works well. Older students can accomplish this task on their own. Younger students may need to have them drawn in. (This activity models only the order of the planets from the sun and not size or distance.)

In class: Each student receives a paper plate, different sized candies, and a small amount of cement frosting. "Features" on each planet may be added to larger planets using frosting and smaller sized candies.

Reference: Project ASTRO Resource Notebook, Astronomical Society of the Pacific.



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- Canned frosting

Procedure:

1. Using the compass, draw 9 concentric circles on the paper plate to represent the orbital paths of each planet.
2. Using canned frosting, attach a "candy planet" on each path around a "candy" sun. *A butterscotch candy be used for the sun. The smaller planets: Mercury, Venus, Earth, Mars, and Pluto should be represented with smaller candies, while the larger planets should be represented with larger candies. *Red spot on Jupiter, dark spot on Neptune, etc. can be shown by attaching smaller candies onto a larger candy. *String licorice can be used to depict the rings on the larger planets of Jupiter, Saturn, Uranus, and Neptune. *Colored sugar crystals should be sprinkled on between "Mars" and "Jupiter" to depict the asteroid belt.

Order of planets from the sun:

Mercury
Venus
Earth
Mars
Jupiter
Saturn
Uranus
Neptune
Pluto (At this time, Neptune is actually farthest, but normally Pluto has this distinction.)